

REMARKS

Reconsideration of this application, as amended, is requested.

Claims 1-4 remain in the application. Independent claims 1 and 3 have been amended to define the invention more clearly. In this regard, all of the original claims defined the invention as a control method of an external control system. However, the original claims were written for prosecution in Japan and the steps of the control method were not defined as clearly as typical method claims written originally for the United States. It is believed that the clarification of the method steps of the invention will help to distinguish the invention from the assignee's earlier work in this field.

The claims were rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 6,550,596 to Shiozaki et al. As noted previously, the Shiozaki et al. reference is assigned to the assignee of the subject invention and the two applicants for the subject application are two of the three named inventors in Shiozaki et al.

The method of operating the Shiozaki et al. fan coupling device is fundamentally different from the method defined by the amended claims herein. In this regard, the paragraph of Shiozaki et al. beginning at col. 5, line 27 explains that when the electromagnet 11 of Shiozaki et al. is turned off, "a magnetic piece 9-2 of the valve member 9 is attracted against the plate spring 9-1 as a result of the attraction of the permanent magnet 10 as shown in FIG. 3A to open the oil supply adjusting hole 7 and to maintain the open state." The next paragraph of Shiozaki et al. explains that when a current is applied to the electromagnet 11 to generate a magnetic field in a direction opposite to that of the magnetic field generated by the permanent magnet 10, the magnetic fields of the permanent magnet 10 and the electromagnet 11 are canceled by each other

as shown in FIG. 3B so that the valve member is closed. Thus, as explained in these two paragraphs of Shiozaki et al., the valve member of Shiozaki et al. normally is in an open condition, and the electromagnet must be operated to move the valve member into a closed position.

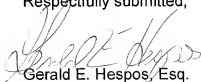
In contrast to Shiozaki et al., the method defined by amended claims 1 and 3 includes biasing the valve member against the partition plate for keeping the oil circulating flow passage in a normally closed position and then selectively operating the electromagnet for attracting the valve member and deflecting the valve member away from the partition plate for opening the oil circulating flow passage. The method defined by the amended claims is fundamentally different from the method of the assignee's earlier Shiozaki et al. reference and provides for much easier and simpler control. In this regard, Shiozaki et al. uses an electromagnet and a permanent magnet at the same time, and requires two complicated control methods. One method has a magnetic field of the permanent magnet reinforced by operating the electromagnet so that the electromagnet has the same magnetic polarity as the magnetic field of the permanent magnet. The other method is characterized by operating the electromagnet so that the electromagnet has an opposite magnetic polarity against the magnetic field of the permanent magnet.

It is submitted that Shiozaki et al. does not teach or suggest biasing the valve member against the partition plate for keeping the oil circulating flow passage in a normally closed condition and selectively operating the electromagnet for attracting the valve member and deflecting the valve member away from the partition plate for opening the oil circulating flow passage. It is also submitted that the Shiozaki et al. reference does not suggest the claimed control parameters for controlling rotating torque transmission by the

step of operating the electromagnet. In this regard, Shiozaki et al. has only one controlling factor, such as an engine rotating speed. The method of amended claims 1 and 3 has a plurality of controlling factors, such as the cooling liquid temperature of a radiator, a fan rotating speed, the temperature of transmission oil, and so forth as set forth in the claims. The application explains that the controlling steps recited in the claims enables a reduction in response delay with respect to control instructions of the fan rotation, a reduction of the associated rotation at the engine rotation changing time, the engine starting time and such, stabilization of the fan rotating behavior and a reduction in unnecessary power consumption and fan noises. These advantages, as explained in the portion of the application bridging pages 9 and 10, are not provided by the assignee's earlier Shiozaki et al. reference.

In view of the preceding amendments and remarks, it is submitted that the amended claims are directed to patentable subject matter and allowance is solicited. The Examiner is urged to contact applicants attorney at the number below to expedite the prosecution of this application.

Respectfully submitted,



Gerald E. Hespos, Esq.
Atty. Reg. No. 30,066
Customer No. 001218
CASELLA & HESPOS LLP
274 Madison Avenue - Suite 1703
New York, NY 10016
Tel. (212) 725-2450
Fax (212) 725-2452

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